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THE
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☞See advertisement on last page.

Poetry.

CHARACTER OF A HAPPY LIFE.

How happy is the born and taught,
That serveth not another's will;
Whose armor is his honest thought,
And simple truth his honest skill!

Whose passions not his masters are,
Whose soul is still prepared for death;
Untied unto the worldly care
Of public fame or private breath;

Who envies none that chance doth raise,
Or vice, who never understood
How deepest wounds are given by praise;
Nor rules of state, but rules of good;

Who hath his life from rumors freed,
Whose conscience is his strong retreat;
Whose state can neither flatterers feed,
Nor ruin make oppressors great;

Who God doth late and early pray
More of his grace than gifts to lend;
And entertains the harmless day
With a religious book or friend:

This man is freed from servile bands
Of hope to rise, and fear to fall;
Lord of himself, though not of lands;
And having nothing, yet hath all.

GROWING OLD TOGETHER

You have promised that through life
We shall journey heart united,
Husband fond, and faithful wife,
And I trust the vow thus plighted:
Hand in hand, and side by side,
Through life's storms and sunny weather
We will our one fortune bide,
And at last grow old together

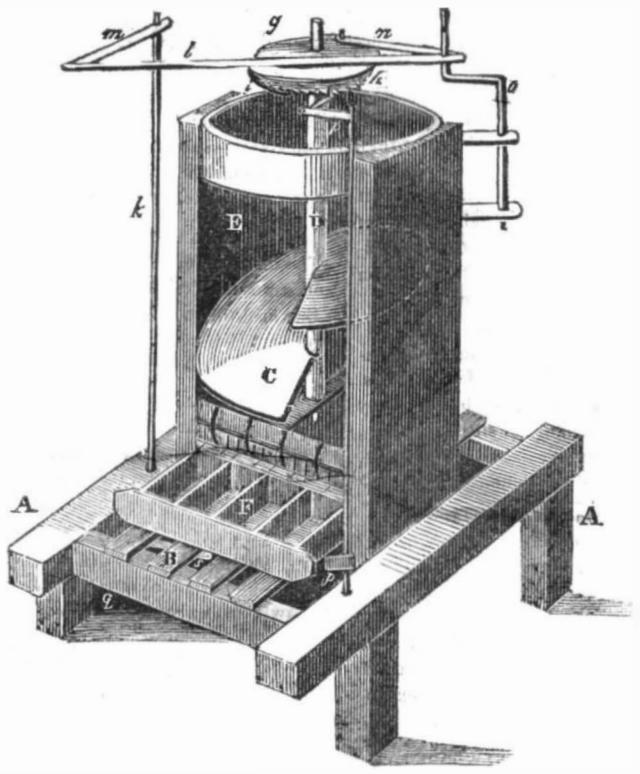
What if times unsparing wing
Of some pleasures has bereft us!
Let us not by murmuring
Lose the many that are left us,
What though youth, and bloom depart
Swift as birds of lightest feather?
Why repine with feeble heart?
Shall we not grow old together?

Few, indeed, heve been our years,
Yet enough our hearts to bind, love;
And to show how many tears
In life's brightest cup we find, love!
Since, in our united youth,
We twain sported on the heather,
Dearest, it is meet, in truth,
That we should grow old together?

Ancient Painting.

The paintings found in the tombs of Egypt though they have been buried in caverns for more than two thousand years, are still fresh and bright. The wife of Solomon is found there just as she was painted on the eve of her departure from her father's house to share the throne of Judea.—Not only is the color of her garments preserved, but the bloom is still on her cheeks and lips, and the lustre in her eye. There are paintings too, as far back as the time of Moses, a portrait, supposed to be of Nico, the Pharaoh who pursued the Israelites to the Red-sea, the colors which are are perfectly preserved.

ADAMS'S MACHINE FOR MOULDING BRICK.

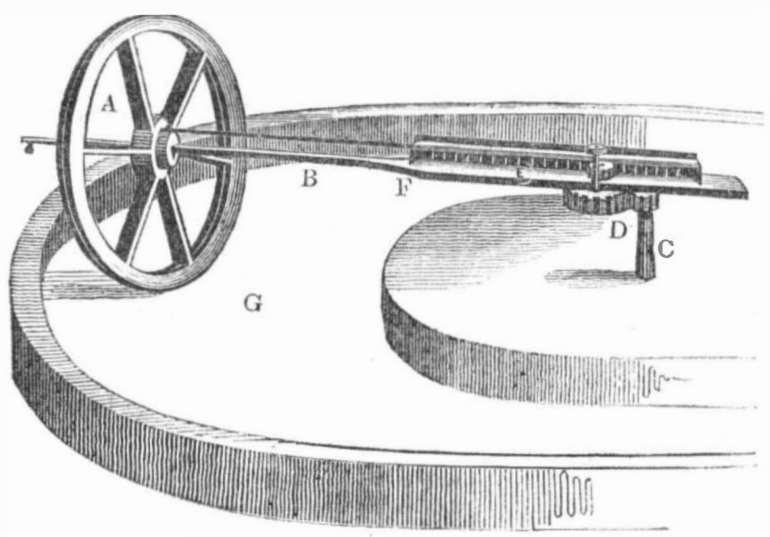


This machine has been highly recommended by those who have used it. The inventor himself is a practical brickmaker, and the machine has been fairly and severely tested with the most gratifying results. It has moulded eighty thousand bricks in one day, but its average is fifty thousand per day. This is a vast amount of bricks by one machine, being no less than 4,166 every hour, for twelve hours labor.

DESCRIPTION OF PARTS.—A A, is the frame. B, the slides for the mould. C, the spiral inclined plane. D, the vertical shaft in the clay box. E, the interior of the clay box F, the moulds. *g*, loose wheel. *h*, ratchet wheel. *i*, the dog. *k*, vertical shaft to move the moulds. *l*, shackel. *m*, crank. *n*, shackel attached to loose wheel *g*. *o*, the driving shaft. *p p*, regulator shaft. *r*, the valves to let out stones. *s*, end of the crank that forms the friction joint.

A number of brickmakers believe that this mode of pressing by the spiral incline plane gives a more even and regular pressure to the clay than by any other motion. It is not liable to get out of order as it has valves to let out stones without stoppage, and has a friction joint that makes it safe for the moulds.

MACHINE FOR KNEADING CLAY.



This machine is also the invention of Mr. Adams and is the companion of the Brick Machine.

DESCRIPTION.—A, the iron wheel. B, the shaft, C, the centre standard. D, the tooth wheel on the under side of the shaft. E, the rack. F, the point of the rack the pinion reaches. G, the bed of clay.

This machine is intended to operate upon clay, placed in a circular bed or pit, a wheel being made to revolve in this bed or pit, and by a shifting movement to pass in a spiral direction over the whole bed, to within a convenient distance from the centre—while, by its weight and form of its circumference, it mashes the clay into a homogenuous mass, of the requisite toughness and temper.

The advantages of this contrivance are the ease and facility of working the machine and tempering the clay. The above cut shows the operation of the machine, and it is only necessary to add that the ends of the rack being circular, it passes round the circle, and the pinion acts upon the other side, and thus reverses the motion without interruption.

This machine will prepare clay sufficient to make from 12 to 25,000 bricks in one bed or pit, in from 3 to 6 hours, according to the toughness of the clay, with a power of from 2 to 4 horses.

For further information respecting these machines address the inventor, Nathaniel Adams, Canterbury, Orange Co., N. Y., or for reference J. F. Green, 74 Pine street, this city. A model can also be seen at the American Institute.

RAIL ROAD NEWS.

New York and New Haven Railroad.

The work of grading is going rapidly forward on the New Haven section. It is considered certain that the road will pass through a densely settled part of New Haven, in the bed of the Farmington Canal, side by side, with the Canal Railroad.

Housatonic and Western Railroad.

The Housatanic Cars are now performing their regular trips between Bridgeport and Albany.

So great has been the increase of business upon the Western Railroad that a double track from Worcester to Springfield, and the same portions of the line between the latter and Albany has been voted by the directors, and the Worcester Railroad Company have purchased in the vicinity of their depot in Boston, about one hundred thousand dollars worth of lands for the purpose of the enlarging their bounds.

Michigan Railroad.

A loan of $1,100,000 has been recently made to Michigan Central Railroad by its stockholders, pro rata. The rate of interest was eight per cent, and the money was obtained without difficulty. Most of the stockholdone we believe, are Boston men.

It is said that there are in Boston holders oi $15,000,000 of stock in rail road lines now building, for which calls to this large amount will be made this year.

Yankees and Rail Roads.

By the late arrivals from Vera Cruz, we notice that a meeting was held at the National Palace in the City of Mexico, about the first of December, composed of Americans, English and Mexicans, to deliberate in the expediency of building a Rail Road from the Capital to Vera Cruz. A Committe was chosen to procure information, and report at a subsequent meeting. One Mexican present stated he was authorized to pledge himself, should the security of the undertaking be made manifest, that nine millions of dollars of the stock would be taken at once.

The Hudson and Berkshire Railroad has been sold at Albany for debt. It was not able to compete with a ricketty stage coach A road to pay well must be built well.

The Erie Railroad runs now ninety-eight miles from New York, having reached Fort Ferris on the Delaware River.

One hundred and twenty gentlemen, representing thirty eight German Railway companies, were, at the latest accounts, assembled in congress at Hamburg, to deliberate on matters affecting the German Railways.

The Sandy and Beaver Canal has been completed. It commences at Glasgow on the Ohio river, distant about forty miles from Pittsburg, and passing through the richest agricultural region of the State of Ohio, terminates at the town of Bolivar, on the Ohio Canal, seventy miles from the beginning.

Among the trophies taken in Mexico, are several complete suits of mail, captured in the battle of Chapultepec, by Capt. Wheat of the Tennessee cavalry. The average weight is 20 lbs. each, independent of the helmet, which weighs 6 lbs.

A Fire Engine built by Mr. J. Smith, of this city, of six and a half inch cylinder, has thrown a stream of water 149 feet high.

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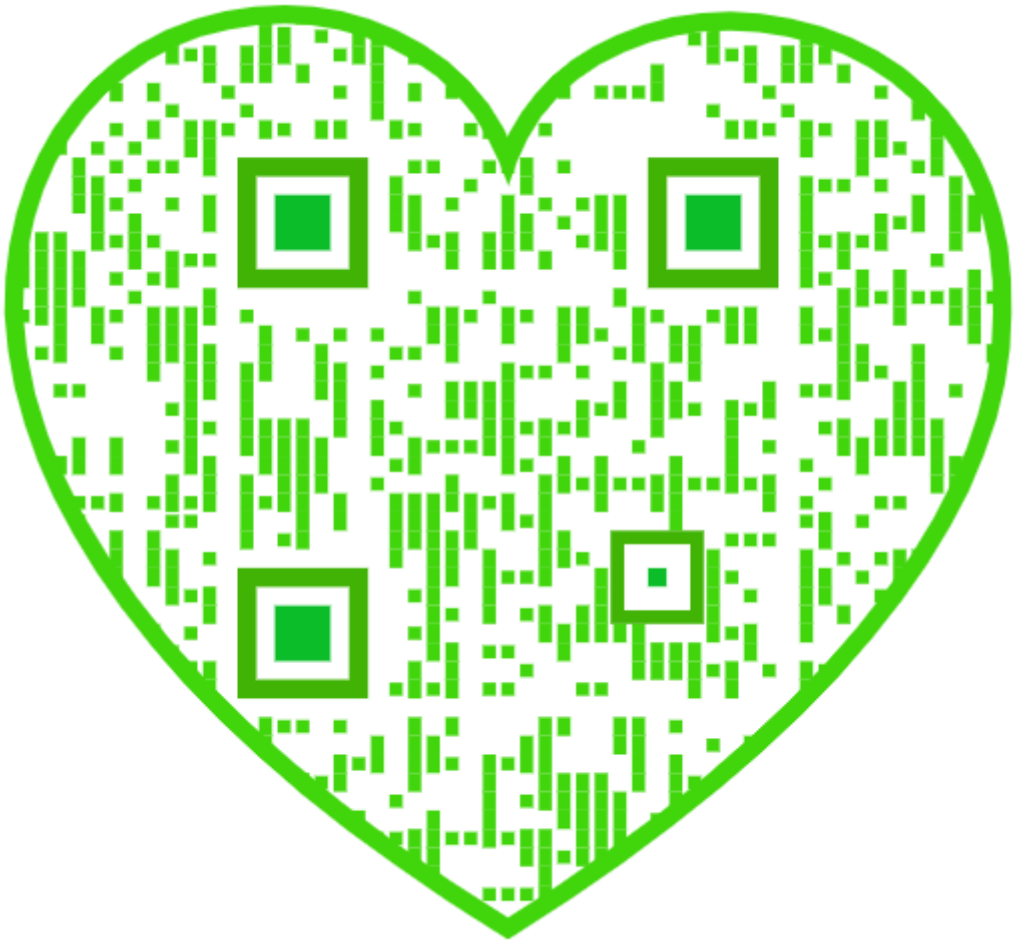

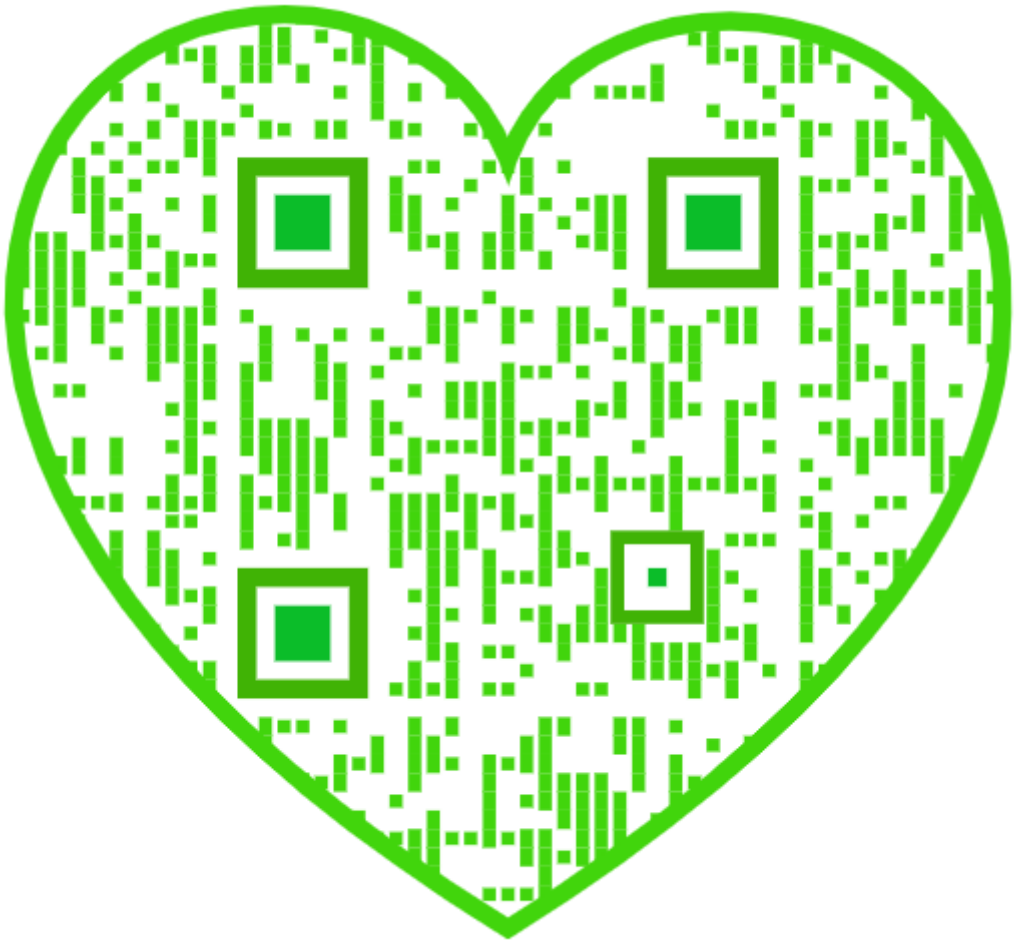

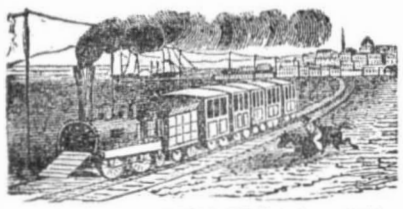

Foreign News.

On Tuesday, the French steamer Missouri arrived at this port at 1 o'clock P. M. after a passage of 24 days, and at 5 o'clock, P. M. the Cambria, British steamer, arrived after a passage of 17 days.

The affairs of Europe are quiet. The money markets of England were favorable. The rate of interest had decreased and cotton and breadstuffs had slightly advanced. Ireland was still in a dreadful state. The cheese which won the gold medal at the Fair of the American Institute in this city, was exhibiting in Liverpool. The censorship of the Press is abolished in Bavaria. The British Parliament had sanctioned the construction of 1,253 more miles of railway. The manufacturing districts are improving, and the Nonconformists of all sects have held a great meeting in London, "no Church and State is their watchword."

Connecticut Repository of Arts.

We have received a circular from Lorenzo Bull, Esq., chairman of a committee appointed by the Hartford County Agricultural Society to examine into the expediency of establishing a Repository of Arts, "for the purpose of bringing into public view all such productions of ingenuity, art and skill among 'the ingenious Yankees,' as are calculated to promote the comfort and welfare of man."—The circular informs us, that it is designed to establish a Repository for the above purposes about the first of May next in Hartford, Conn. We congratulate our Connecticut friends, in having an Agricultural Association, managed by men, such respectable men, who have come forward and held out the hand of encouragement to the mechanic. We wish success to the Repository of Arts and with such men for managers as Lorenzo Bull, Erastus Ellsworth, A M. Collins, Solomon Olmstead, J. B. Hosmer, Horace Goodwin, 2d, and N H. Morgan, it surely cannot fail to be a benefit to the mechanic, manufacturer and purchaser, and be the means of assisting and encouraging many a poor inventor, an object of the institution.

Roof Composition.

In the court of Common Pleas in this city, last week, in the case of Beeman and others vs. A. B. Haxton, the plaintiff sought to recover $84 for a new composition furnished to the order of the defendant for roofing houses and which was actually used on some property in Brooklyn belonging to the defendant. The defence was, first that the defendant's son had no authority to contract for the composition in question, and therefore the defendant was not bound to pay for it; also that the composition was dangerous, and property roofed therewith could not be insured The last point was the gist of the defence, and testimony of persons were adduced, who said this composition was dangerous and others that it was not. Some insurance office surveyors said that they would insure such property, and others that they would not. The court said that if the jury would believe that the composition was furnished without either party saying anything of its combustibility or the reverse that the defendant was bound to pay.

The jury gave a verdict for the plaintiff, for the full amount claimed.

Daguerreotype of the Sun.

Prof. Nichol remarked in closing his lecture at Cambridge, Mass., that if the sun could be made to assist in taking pictures of objects upon the earth, he could not see why a contrivance might not be fixed upon, by daguerreotyping his own picture; and not only so, but to be continually stamping his image at successive moments of time. In that case all that the astronomer would have to do, would be to go to his study and use the microscope, and he could there examine all the different aspects of the sun, and from theories at his leisure.

Intense Cold.

Tuesday, the 11th of January 1848, will be hereafter recorded in the New England Calendar, as the cold Tuesday. We learn that in Bristol, N. H.. the mercury fell twenty-six degrees below zero on that day. At Lyme, N. H. it was thirty-two below; at Hanover thirty-four; at St. Johnsbury. Vt the mercury fell to forty, and frozen: and at Franconia, N. H, it fell to 39.

Such are the accounts we have seen in a number of papers of the severity of weather in the North, while even in New York we are enjoying the soft gales, as it were of spring.

Ancient Doctors.

Among the Romans all their physicians and surgeons were Greek slaves. and by this simple classification of professions we may well judge how the Romans estimated learning — Physicians were the companions of the kings and the greatest men of Greece—in Rome they were slaves In the civilized world they now justly rank among the highest classes and it only wants a sound and thorough system of education adapted for apprentices to mechanical trades, to render them as lofty in station as any other class.—*Glen Ruther.*

Indian Remains.

The workmen engaged in digging on the canal at the "new city" at south Hadley Falls. Mass., discovered four indian skeletons They were found in an upright or sitting posture, and each with a mortar and pestle by its side, which had been used for pounding corn.

Population of Austria.

This vast empire contains forty millions of inhabitants, including the military. It is quite as populous as France. Five millions of its subjects are Italian. More male than female children are born. yet there are 800,000 more females than males. It is computed that 550 persons are murdered yearly, yet the executions do not amount to more than 49.

Long Noses.

A Boston editor, alluding to the long noses of Julius Caesar, the Duke of Wellington, John Tyler, and other dignitaries, says that he recently saw a nose that beat them all. It was thin and straight, snubbed up at the end, and all of a foot long. In concluding, however, it occurred to him that "it may be as well to state that it belonged to a pair of bellows.

Crystal and Water.

Water, when hot dissolves more salt, sugar, &c., than when it is cold. Hence the utility of pouring, hot salt, and water over articles to prepare them for pickling; and hot syrup upon preserved fruits: for the salt or sugar that would crystalize as the liquid cooled, is taken up by the fruit, &c., which being heated also absorbs more than could be made to do if it were put on cold.

Cure for the Gout.

1. Pick a handkerchief from the pocket of an old maid of fifty years, who never had a wish to change her condition—2. Wash it three times in an honest millers pond—3. Dry it on a parson's hedge that was never covetous—4. Send it to a doctor's shop that never killed a patient—5. Mark it with a lawyer's ink who never cheated a client—6. Apply it to the part affected

The Gazette of our Union.

This valuable and excellent paper comes out in a new dress for 1848. Success to the Gazette, it is deserving of an extensive circulation, and is fast getting it too.

Councilman Expelled.

Mr. Ichabod Lindsey, of Charlestown, Mass., has been expelled from the Council of that city, of which he was a member. The cause is said to be a disregard of the rules and orders of that body.

Beautiful Present

The reporter of the Philadelphia Times and Keystone has received a handsome compliment from the New England Glass Co., in the shape of a square glass perfume bottle, of most beautiful workmanship. On one side is the full name of the receiver of the gift, A. W. Blackburn, Esq. enclosed in laurel wreaths, on another a magnificent rose, on the third a boquette of the rarest flowers, and on the fourth is an American Stag, resting on a bank by the side of a stream under an oak.

The Montgomery Steam Boiler.

Experiment on the steamboat Jonas C. Hart now running to Newark, demonstrates a saving of one-third in fuel, and that the boiler occupies one-third less space, that she is ten tons lighter, that her wheels make one revolution more in a minute than with her old boiler.

Soap Stone.

A beautiful article of soap stone has been shown us found in the valley of the Deerfield River, in Rowe. The quarry which is apparently inexhaustible, lies near the track of the proposed railroad from Greenfield Mass.. to Troy, N. Y.

Large Boat.

The Convoy, which is probably the largest boat which ever came up to Cincinnatti, arrived yesterday morning, says the Cincinnati Atlas, and is now lying on the Kentucky side of the river.—She carries a crew of 80 men, all told, 40 of whom are firemen and is capable of carrying 14,000 tons freight.

An Extra Dividend.

The directors of the Bank of Auburn present as a New Year's gift to the stockholders of that institution, an extra dividend of one hundred thousand dollars, or fifty per cent on the capital stock of the Rank.

An Antique Chair.

The "Marie Antoinette Chair," was disposed by lot, a few evenings since, in Baltimore It was once in the possession of the unfortunate Marie Antoinette of France.

Breadstuffs from Canada.

The amount of breadstuffs and provisions exported to foreign countries this year, via the St. Lawrence, exceeds in value five millions of dollars Some part of these exports are from the United States. We also received via the Erie Canal, a part of the products of Canada for home use or exportation.

A Two-sided Compliment.

A rustic, who had never before tasted ice cream, was helped by a lady at an evening party recently to a plate of "unsuccessful frigid milk," under its usual simple designation of cream.

"Your cream is very sweet," said he, but aint it a little tetched with frost?"

The steamer Blue Bridge lately blown up on the Ohio was one of the most destructive scenes of human life ever witnessed. It appears that no less than 114 were destroyed It is high time that some determinate example was made to prevent like occurrences for the future.

Some cure scolding wives by ducking them, the gentle methods are best. The new mode of rubbing them down with soft soap, and tickling them under the chin with a feather, is much more consonant with the enlightened age in which we live.

If all food and drink be withheld from the system, life lasts about three weeks, but if water be taken according to the indications of thirst, the individual survives twice that length of time.

Lord Brougham's three maxims are—to be a whole man to one thing at a time—never to lose an opportunity of doing any thing which can be done—and never to intrust to others what you can do yourself.

A beggar in Dublin had been long besieging, an old, gouty, testy, limping gentleman who refused his mite with much irritability; on which the mendicant said, "Ah please your honor's honor, I wish your heart was as tender as your toes."

The Saturday Courier Case of Philadelphia, Holden and McMakin was decided last Saturday morning Judge King, decreed that the subscription list and all the other property of the Courier belonged to the joint estate Thus the right, title and interest covers everything, books &c.—*Phila. Bulletin.*

The Great Gaines Case, has been decided in favor of Mrs. Gaines. Thus a large amount of property in Louisiana, engrossed now by wealthy owners will change hands and go into the possession of one who was not very rich.

Tom Thumb came near being lost along with Mr. Barnum as they were starting from New Orleans for Havana. The vessel they were on board, was run into, and her masts carried away, but the great "curiosity man" and his golden Thumb escaped to the shore with only a fright.

The Physician who enjoys the largest practice in London in his last return for the income tax, stated his professional earnings at £33,000 ($160,000), and several other physicians made returns varying from £15,000 ($72,000) to £5,000 ($24,000.)

The lectures of Prof. Nichol, lately delivered in Boston on Astronomy have been pronounced by able judges who heard them, to be altogether superior to any others on that subject that have yet been given in this country.

Mrs. Smothers was e'enamost tickled to death when the President asked her what the Yankees did not make. "La!" replied the good lady, with an expression of the most delectable assurance. "Yankees make everything but paupers.

At the Washington Navy Yard, they are putting up a new steam hammer composed of a solid block of iron weighing 16,000 lbs.—The bed in which this is to be placed, weighs 10,000 lbs, making the weight of the hammer when completed, 26,000 lbs.

The number of emigrants from Prussia, in the year ending September, 1785, was 9,239, who carried away 1,781,035 dollars; and the number in 1846, 16,662 emigrants, taking out 2,515,957 dollars.

The debt of Pennsylvania has been reduced $160,000 dollars last year.

The whole debt of the state of New York, is $22,883,590 of which over 16 millions is on account of the canals.

Old gouty men are not always rich. Remember, there is such a thing as catching the gout at other people's expense. If to the gout however, is added bear like manners, the case is different. Ugly old men are generally rich.

James the first used to say, that the happiest lot in life was that which set a man below the office of a justice of the peace, and above that of a petty constable.

A magnet placed at a short distance from a watch will cause it to stop by attracting the main spring, that is if the magnet is powerful enough.

In London there are booksellers who only deal in works on astrology and magic, for which a regular and active demand is said to exist.

None are so invincible as your half-witted people, who know just enough to excite their pride, but not near enough to cure their ignorance.

An abolition of Slavery in the island of St. Barts and its depencies, was duly proclaimed there on the 9th of October, St. Barts is under the government of Sweden.

A resolution is before the Legislature of this State for declaring Magnetic Telegraph Companies Common Carriers and regulating their rates of toll.

The original £500 shares in the New River (London) Water Company, seventy-two in number, are said to be now worth £20,000 each.

The original flag of New England had a white ground quartered, and in one of the quarters a globe divided.

Some of the English coal mines have been extended to a depth of more than 220 fathoms below the surface.

There is bnt one farmer in Georgia who makes cheese, and our exchange says that he sells all he makes at 15 or 18 cents per lb.

When we are alone we have our thoughts to watch; in the family our tempers; in company our tongues.

A great fire occurred at Pensacola, Fla., on the 3d inst., and another at Green Bay, Wis., on the 8th inst.

The acetate of lead is excellent for the purifying of gas, if mixed with lime.

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Newly Discovered Article of Food.

The Paris papers mention a vegetable production found on the high lands of the south of the French provinces of Africa, and in Algerian Sahara during the last campaign, which has been pointed out to the French Government by General Jussuf. The new article is a lichen which is found in a great part of Sahara. It is nourishing like the manna of the Hebrews. It is detached from the soil, on which it is rolled here and there by the wind, and has the appearance of small pieces of leather of the color of the earth, rolled and doubled up together.—It is dry and as hard as a grain of corn; it is white inside, and presents a farinaceous aspect when it is crushed, its taste is very much like dried grain, and mastication developes a slight degree of bitterness.

According to observations and information which have been collected it is produced every year, after the rainy season, under the form of moss, on the ground to which it is first attached. The upper part is then whitish, that which lies on the ground takes the color of the earth. The sun aftewards acts upon this substance, which becomes dry, rolls itself up and becomes crisp. It then detaches itself from the soil, and the wind drives it about and collects it under the tufts of thyme, the only vegetable which grows on the land where it is produced.

During years of scarcity the natives make of the lichen mixed with Barley, a coarse but very substantial kind of bread. The nutritive properties of the lichen commended it to the French Government who have given orders to have its properties fully tested as an article of food for the army in Africa.

Salt Lake near Santa Fe.

About seventy miles South of Santa Fe, and forty East of the Del Norte river, is a famous salt lake. It is several leagues long and of considerable breadth, and is the reservoir for several streamlets, that at certain seasons, pour their water into it as a common receptacle. There is found salt enough to supply not the territory only, but half the universe. It is transported not only to difierent parts of the territory, but finds a market in the neighboring departments. Yet there are other locations that supply it abundantly.

It is said that a single man, with great facility, could, in a single day, in the lake, collect five hundred bushels. The whole surface of the ground is covered with it to a considerable depth, and having above it a thin sheet of water (of course, deeply impregnated with it but not of sufficient quantity to hold all the salt in solution,) by the application of a hand or a spade, is readily thrown into heaps, and the wagon or animal brought to transport it is driven into the lake and loaded without the least delay or inconvenience. The salt, when carefully removed, is of a clean white color, as clear and beautiful as the best American table salt, but oftentimes, from the hurry and carelessness with which it is taken up, it is discolored with the intermixture of other substances, and hence its filthy color, like that found in distant locations, it is generally more or less tinged, unless boiled by foreign bodies, but in cooking it, it is relieved entirely from them. Here the people have an inexhaustible store of an article of necessary consumption.

Honesty of Heart.

There are some men who become so habituated to speaking and doing that which is wrong, that right and truth become antagonist to their very existence. How our hearts have wept to hear men boast of having been successful in deceiving others for pecuniary gain. A successful trick of bargain is a fetlock to every soul to chain it to the adamantine walls of endless despair.—*Prof. Larry.*

Persian Wisdom.

It is said that in the treasury of one of the monarchs of Persia, was found a vase with the following lines tinged with humor as well as philosophy, inlaid in gold:

"He who has no wealth, has no credit; he who has not an obedient wife has no repose; he who has no offspring, has no supporters: and he who has none of these, lives free from every care."

Quick Work and Burned Fingers.

A cast-iron pinion belonging to the packing press of one of our neighboring cotton factories, says the Baltimore Sun, accidentally broke on Monday forenoon, and in accordance with the usual energetic management of the concern, a pattern had been made and another one cast at the Baltimore Iron Works, by an early hour in the afternoon, which was taken red hot out of the sand, and confined by a wire to the axle-tree of the proprietor's carriage, immediately on its way to its destination, but before proceeding many squares, the wire broke, and the casting being dropped in the street, was discovered by a boy, who attempted to make a prize of it; but his surprise and consternation may be imagined upon finding it almost red hot. It is needless to add that he did'nt pick it up, and we should have felt more commisseration for his burned fingers, but that instead of letting it be, the scorching admonition did not deter him from from kicking it under a neighboring board pile, for further consideration. However, another boy, having observed the incident, gave information as to the locality of the magic metal, and being more securely fastened, it was once more on its destination, where it was bored, turned, fitted, and ready for operation before the heat of the casting was out of the metal.

As Bad as the Kidd Humbug.

The Hibernia and Brookline whaling ships of New London, lately arrived at the Sandwich Islands with cargoes of gold. The crews of these ships discovered a vein of gold in Margarite Bay, California, and forsook the harpoon, took to the pickaxe, and toiled away most manfully in pursuit of the wealth which their imaginations depicted as lying each moment but a few shovels full deep in the earth After it they dug, some fifty men, wtth all the tools they could raise, a hill one hundred feet deep, was soon demolished, 700 tons of earth removed, and about 500 dollars expended. Mining stock rose faster than ever the South Sea, Mississippi or Eastern land shares; 1,000 dollars we hear, was offered for a sailor's chance. Jack tugged harder in carrying off his armsfull of the glittering rock, than ever he strained an oar after a 250 bbl. whale. All the spare room in the ships was soon filled up. Instead of oil, barrels were crammed full of solid gold, There it lay in shining heaps, as in a genii's cave. Each man had but to help himself to a fortune which would put Croesus to the blush. The Brookline brought some thirty barrels of the ore to Honolulu and very generously gave it away, some knowing one having had the audacity to dispel the golden dream by declaring the whole to be a heap of that very common mineral, *sulphuret of iron!*

We knew an honest farmer who once lost a good field of corn for a few wagon loads of this valueless pyrite.

Really Good.

We do not think much of that man's religion who takes particular pains to show it. It appears to us that his heart is out of tune. If a man is really good, the temper of his mind will soon enough be discovered by his own neighbors, without having the label on his breast—"I am a true christian"—or without his fastening on his front door—on his counter, or on his hat, passages of Scripture. If he is indeed a true disciple, his daily walk and conversation will manifest it. His whole life will be a living epistle—a beautitul expression that—we love to repeat it—"living epistle" of his faith and practice. An humble christian is always retiring and conceals one half of his good deeds from the world and is never severe and dogmatical. His daily walk is a volume which all may read with pleasure and profit.

Premium Offered.

Some friends of the Sabbath, in Philadelphia, have offered $100 for the best approved tract of 4, 8 or 12 pages, showing the pernicious influence of Sabbath recreations in health and morals, and meeting the popular reasons urged for them. Manuscripts may be addressed (post paid) until the 1st of May next, to William A. Hallock, 150 Nassau street, New York, or to Wilfred Hall, Esq, 144 1-2 Chesnut street Philadelphia.

Days without Nights and Nights without Days.

Dr. Baird in a recent lecture at Hartford, Conn, gave some interesting facts. There is nothing that strikes a stranger more forcibly, if he visits Sweden at the season of the year when the days are longest than the absence of night. The sun in June goes down at Stockholm a little before ten o'clock.. There is a great illumination all night as the sun passes round the earth towards the North Pole, and the refraction of its rays is such that you can see to read at midnight. Dr. Baird read a letter in the forest near Stockholm at midnight, without artificial light. There is a mountain at the head of the Gulf of Bothnia, where on the 21st of June, the sun does not go down at all. Travellers go up there to see it. A steamboat goes up from Stockholm for the purpose of carrying those who are curious to witness the phenomenon. It only occurs one night. The sun goes down to the horizon, you can see the whole face of it, and in five minutes it begins to rise.

At the North Cape lat. 72 degrees, the sun does not go down for several weeks. In June it would be about 25 deg., above the horizon at midnight. The way the people there know it is midnight, they see the sun rise. The changes in those high latitudes from summer to winter are so great, that we can have no conception of them at all. In the winter time the sun disappears, and is not seen for six weeks. Then it comes and shows its face. Afterwards it remains for ten fifteen or twenty minutes, and then descends, and finally it does not set at all, but makes almost a circle around the heavens.

A Huge Ship.

In 1825 there was built on the river St. Lawrence a ship named the Baron of Renfrew which was the Scottish title of William the fourth. She was three hundred and nine feet in length, and of corresponding breadth. Six thousand tons of timber were wrought up in the construction of the immense floating fabric! She left the St. Lawrence for London on the 25th of August 1825, with a cargo consisting of ten thousand tons of timber, boards, staves, spars, lath-wood, &c. She was accompanied down the river by several steamboats, and having four masts crowded with sails, made a grand appearance. This enormous vessel crossed the Atlaniic in safety, and arrived off Dover in the English Channel in about fifty days passage. She got pilots on board, and the question was how to get her into the river Thames, her draft of water being upwards of thirty feet It was concluded to be unsafe to try the Queen's channel, a channel safe for the passage of the largest ship of war. She was accordingly taken outside of the Goodwin Sands, and towards the entrance of the King's Channel, farther to the Eastward. Off the Galloper light she met with a heavy gale, and finally got ashore on the Long Sand. She was got off the following day—and subsequently, on the 18th of October, rode out a heavy gale at the eastward of the sunk Light. But a succession of heavy gales from the northward came on and drove her ashore on the Flemish Banks, and after resisting for weeks the furious action of the waves, she was completely broken up, and her enormous cargo of lumber was scattered along the coast of Flanders from Calais to Ostend, and served the hardy fisherman inhabiting that region for firewood and building stuff during the succeeding winter.

Remarkable Escape.

On the 20th of Dec. the corn mill, which was located in the steam saw mill of Mr. W. E. Skidmore of Brockport, N. Y. was blown to pieces by the great velocity at which it was running, and the pieces were thrown in all directions over the room. At the time of the explosion Mr. Skidmore and Mr. Olds were working in the room, and their escape without serious injury is wonderful. Mr. Skidmore was slightly injured. A piece of iron about the size of a two ounce weight struck him on the right side just over the lower rib, and but for striking a large bone handled knife and a silver watch which happened at the time to be in his vest pocket, would in all probability have killed him instantly. As it was, the force of the blow was so great that it prostrated him for a few minutes.

An Old Sea Dog.

In the U. S. Senate, Mr. Dix, from the committee on commerce reported a bill providing for the issue of a register for the barque Canton, which was passed. This vessel was built of teak wood, in the East Indies, nearly one hundred years since. She was originally owned by the Dutch East India Company, but after various mutations of fortune, recently came under the Haytien flag. Early last winter she got ashore on the Muscle ledge, at the mouth of the Penobscot, where she remained combatting with the storms during the whole winter. But the strength of her timbers, notwithstanding her great age, proved more than a match for the winds and waves, and she was got off in the spring and taken to Bath, where she had been purchased. She was found to be but little damaged, was repaired, and is now again navigating the ocean. After passing through such an ordeal who will say that she is not worthy of bearing the stars and the stripes.

A Yankee.

Winchel, the drollerist and humorist, attended a recent Pilgrims Festival at Cleveland. He gave the following description of a Yankee:—

"A real live Yankee, just caught will be found not deficient in the following qualities. He is self-denying, self relying, always trying and into everything prying. He is a lover of piety, propriety, sobriety, notoriety, and the temperance society. He is a dragging, gagging, bragging, striving driving, thriving, hoping, swapping, jostling, bustling, wrestling, musical, quizzical, astronomical, poetical, philosophical, and comical sort of character, whose manifest destiny is to spread civilization to the remotest corners of the earth, with an eye always on the look out for the main chance,"

Steam.

"Steam," said Mr. Webster, in a recent speech "is on the rivers, and the boatmen may repose on their oars; it is in the highways and begins to exert itself along the course of land conveyances, it is at the bottom of the mines a thousand feet below the surface of the earth; it is in the mill. and in the workshops of the trades. It rows, it pumps, it excavates, it carries, it draws, it lifts, it hammers, it weaves, it spins, it prints.—*Exchange.*

We bdlieve that the above is to be found in Lardner's introduction to the History of the Steam engine.

Ancient Mines.

Dr. Wilson, in his travels through the lands of the Bible, last year discovered on the route from the Red Sea to Mount Sinai, the immense mountains alluded to by the author of the book of Job, as the source of the gold and silver of the early ages. From huge seams in the sides of the mountains was the ore dug out, and all the evidences of this mode of mining present themselves to the eye. How the grooves, or channels were cut out trom such lofty heights to the base of the mountains does not appear. Immense must have been the waste of life in prosecuting the work.

A Gentleman of Color.

The richest man in St. Thomas, one of the principal ports in the West Indies, is a negro as black as ebony. He is said to be worth not less than three millions of dollars, and has acquired his wealth by trafficing in persons of his own color.

Cent Per Cent.

One of our city brokers who is luxuriating on the hard times at the rate of three per cent a month for his money, took a trip by railroad the other day, and seated himself in the very rear end of the trains because, he said the use of his money was worth something while the conductors were coming through the cars.

A good fire, a long night, a kind wife, and the Scientific American. A man who would cry for oysters, that has all these, ought to be set upon the machine they have out West for hatching eggs, and which beats the Knickerbockers all to smash. The modus operandi consists in filling a barrel with eggs, and then setting a hen on the bung-hole.

A new line of telegraph has been established from Baltimore to Harrisburg Penn.

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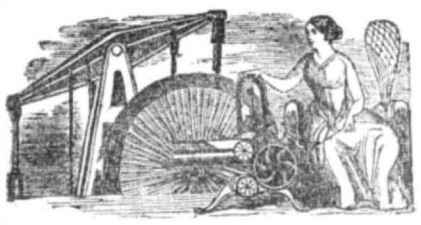


New Inventions.

Machine for Making Wrought Nails.

Mr. Henry Hays, of Quincy, Illinois, has invented a machine for making wrought iron nails, which will we hope be an excellent companion to the spike machine, recently invented by a mechanic in the State of Maine, and for which application has been made for a patent. In Mr. Hay's machine the iron is carried when red by the feeder into a groove between rollers, the lower one of which drops to receive the rod and then rises again into its place holding the rod firm until it is headed. At the time the nail is headed, the rod is cut off at any length to make the nail, when the nail then passes into a die, where the point is made. Measures have been taken to secure a patent. About eight months ago we were informed that a gentleman in Williamsburg, N. Y. had invented a machine for making wrought iron nails, but since that period we have heard nothing more about it, and have not seen any nails made by it, although we have made many enquiries respecting them.

New Blow Pipe.

Mr H. A. Haughton, of Eaton Village, N. Y., has made a beautiful improvement on the common *blow pipe*, by which it can be made very cheap. In some kinds of brazing it is well known that an intense heat is required, especially for a long seam of soldering. For this purpose what is called the oxyhydrogen blow pipe is used, whereby a great heat is engendered and minerals and metals are dissolved and become liquid under its influence, which otherwise would remain in their solid state. There is not a single mechanic but has sometimes to use the blow pipe.

Every workshop, however should have one. The invention of Mr. Haughton, by a single teaspoonful of alcohol will last for brazing a whole hour and can be held over the lamp to produce any degree of heat. Mr. Haughton has taken measures to secure a patent, and we may be able to present an engraving of it in the Scientific American, at some future period, when it will be fully explained.

Boot Crimping Machine.

Mr. C. White, of Galway, N. Y., has lately invented a beautiful Boot Crimping machine, for which a patent has just been issued, the principle of which, is to produce an equal pressure upon all parts of the upper to be crimped, so as that one part of the leather may not be drawn out to the thinness of a wafer and injured in strength, while the rest is quite strong. For this purpose his frame is of a curved form of the shape of the board on which the leather to be crimped is placed, and by means of jaws working in slots by screws, said jaws are raised parallel up and down operating with equal pressure upon all parts of the leather to be crimped.

New Corn Crusher.

Mr. J. C. Ross, of Lewisburg, Penn., has invented a very superior Corn Crusher It shells the Corn first and then by an arrangement breaks the cob very fine, or breaks corn and cob both together. Very little power is required to propel it.

New Railroad Brake.

Mr. L. Hill, of Glasgow, Scotland, has invented a new Brake, to operate on the hydrostatic principle, and is intended never to let the train get over a certain speed. While the train runs below a fixed speed, it pumps water into a cylinder no faster than it can escape without raising a piston valve, but beyond a given rate the water is pressed so fast as not to find egress, when the piston valve is raised and by an arrangement locks the wheels. No one will question the effectiveness of this plan who knows the power of hydrostatics. In our opinion, however, the arrangemont must be not a little complicated.

Smelting by Electricity.

A patent for smelting by electricity has lately been granted to Mr. Wall, of Poplar, England, which consists in an improved method of manufacturing cast iron. The patent embraces two parts or processes, the first of which consists in adding certain substances to the metal while in a state of fusion; and the other consists in the application of electricity to the metal while in a state of fusion, and duriug its congealing or solidification. In carrying out his invention, the patentee finds that a battery, consisting of platinum and zinc plates, containing eight pairs, 6 inches by 4 of active surface, in separate cells of dilute sulphuric and strong nitric acid, arranged as in the form known as Grove's battery, or 32 pairs of the same sized plates arranged in the manner commonly known as Mr. Smee's battery, give him sufficient electricity for all general purposes. In applying the electric current a rod of iron is inserted into each extremity of the mould, into which the metal is to be cast, if the casting be horizontal; or into the bottom and top of the mould if the casting is vertical. The two rods of iron are connected with the two poles of the battery respectively; and when the melted metal is poured into the mould, it serves to complete the circuit, and the electricity continues to traverse it as long as the connection with the poles of the battery remains unbroken.

India Rubber Felt for Railways.

Railway india rubber is now manufactured with a large quantity of metallic substance, rendering it impervious to heat and cold, and of all thicknesses for the purpose of being placed under the bearings of the rails, and at the junction of the rails on the junction plates; by which it is supposed much of the jar, and consequent wear and noise of the machinery will be avoided.

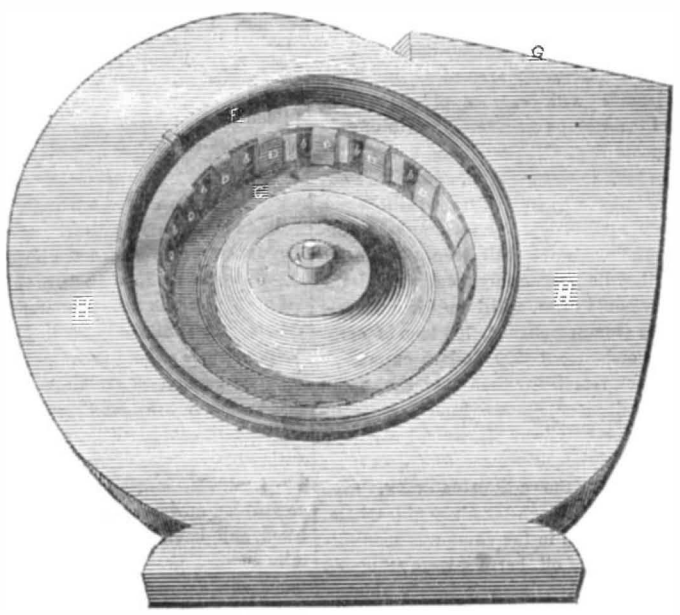
Lighting by Electricity.

A patent has lately been taken out by Mr Thomas Wright of Coopers Hill, England, for the proposed purpose of causing light by continually presenting one or more charcoal points to the path of an electric current.

Revolving Cravat and a Coat of one piece.

A London firm has registered a new "revolving cravat," which presents a new surface to the roughness of the chin whenever it is tied, and the Times announces that a London tailor has cut a coat in one single piece without a seam, out of Gutta Percha cloth.

TELLER AND DILLENBACK'S VERTICAL WATER WHEEL.



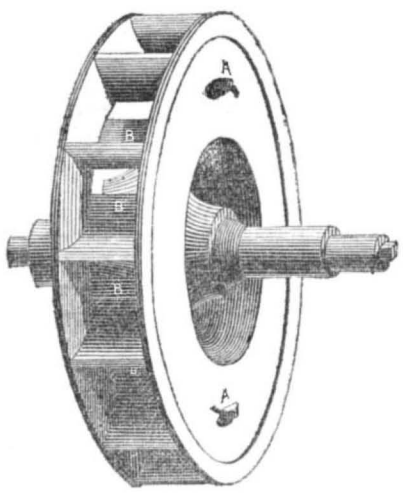
This is an oblique perspective view of a wheel on which an improvement has been made by Messrs. Teller and Dillenback, of Fort Plain, Herkimer county, N. Y. The principal feature of difference in this from the other water wheels, is in the manner of regulating the discharge, so that there can always be a uniform speed with a variation of power. It is well known that much difficulty and breakage is often experienced in machinery driven by a water wheel, and geared to a certain speed, in such situations where there is not a uniform supply of water and the speed of the prime mover variable. If a stoppage of some part of the machinery obviated this difficulty and brought all the machinery that was running up to the required speed, all would be well; but this is not the case always, as there is a difficulty of regulating the amount of resistance to the amount of power.

In this wheel this object is obtained by a double tier of buckets, an exterior and an interior set, to regulate the discharge. The amount of power reckoned to the amount of water discharged and the speed uniform by the flue or case being kept always full of water. This view represents the downward or discharge part—all is air-tight when the wheel is in motion.

The water is admitted through the flue G. A, is the shaft. B, are the exterior, and D the sliding, interior buckets. F, is a rim capable of regulating the distance between the arc and the wheel. C and U, represent the casing of the wheel. H H, the scroll.

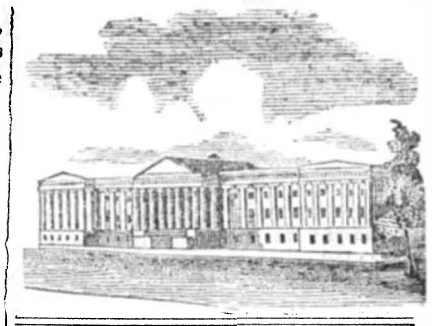
Every reader will understand the application and operation of the above wheel by just supposing Fig. 1 to be turned over and the water flowing on to the buckets through the shute. It will then be perceived that although this wheel is submerged, that it will revolve and discharge as well as any other constructed on the same principle, while in a scarcity of water its speed can be uniform, as the power, by the quantity of water discharged, will always be known.

FIG. 2.



This is a section end view of the wheel, without the arc, or scroll, and exhibits the interior and exterior rows of buckets. B B, are the interior rows of buckets, which regulate the discharge by being constructed so as to be moved backwards and forwards in a groove of the face plate, C C, on which are the outside rows of buckets. This wheel is intended to be made of cast iron and can be used either to be hung horizontally or vertically. When used as a horizontal wheel, the inventors use what is called a balance which is a part cast on the periphery covering the distance between every two buckets, thereby making it a wheel suited either for vertical or horizontal motion in the main shaft.

Measures have been taken to secure a patent for the balance and mode of regulating the discharge.



LIST OF PATENTS

ISSUED FROM THE UNITED STATES PATENT OFFICE,

For the week ending Jan 12, 1848.

To Elias Gruver and John Gilliford, for improvement in machinery for threshing and cleaning clover seed. Patented Jan. 12, 1848.

To Cosman White, of Galway, N. Y., for improvement in Boot Crimps. Patented Jan. 12, 1848

INVENTOR'S CLAIMS.

Machine for Exercising Children.

By George W. Tuttle, of New York. Improvement on machine for exercising Children. Patented September 4th, 1847. Claim I do not claim the use of a spring as a means of giving motion for the purpose of exercise or amusement, as that has been before employed in a variety of ways. But I do claim the combining of a spring or springs, with a suspended apparatus, substantially the same with that above described for exercising children and invalids; it being understood that my claim is limited to the combination of such spring or springs and suspension apparatus as will enable the child to bring its feet conveniently in contact with the floor, while its body is suspended substantially in the manner described; not intending however by the foregoing description and claim to limit myself to the exact form or mode of uniting any of the parts of the apparatus, but to vary the same as I may think proper, whilst I attain the same end by means substantially the same.

Sash Fastener.

By Morton Judd, of New Britain, Conn. Improvement in sash fasteners. Patented September 4th, 1847. Claim—What I claim as my invention and desire to secure by letters patent, is the method of fastening window sashes by placing the catch in the centre, longitudinally, of a box—said box having three of its sides and ends closed—the ends having a jog or shoulder upon which a bar or curved spring is arranged, against which the end of the turning catch is placed which serves to keep the spring in its place, and the spring to secure the catch in the position which it is made to assumme without bolts or screws the catch being thus placed in the centre of the box answers the double purpese of securing the spring to its place without the expense of fastening it in the usual way together with the convenience of fastening or unfastening the window by turning the catch either to the right or left. Fasteners made in this way can be made of sheet metal, whereby they they can be afforded at one quarter less expense than the ordinary way of casting, and be much stronger, not being mortised for the binding screws that confine the spring to the box and the spring being placed loosely in the box.

Steering Apparatus.

By Isaac L Blanchard of Weymouth Mass. Improvement in Steering Apparatus for vessels. Patented 11th September, 1847. Claim—What I claim as my invention. is a combination of chains, two windlass barrels, cogged wheels, and purchase wheels and shaft as applied to the rudder-head in the manner and for the purpose as specified. I further claim the combination of the index pointer or apparatus, with the rudder-head, for the purpose of denoting the direction of the rudder when the rudder is removed—all as specified.

Rock Drill.—Errata.

In our description of Messrs Wightman & Vaughan's Rock Drill, in last week's Scientific American, it should have read "it has drilled a hole 3 1-4 inches in diameter ten feet deep in 12 hours," instead of "three-fourths of an inch in diameter." Also, that "a patent has been secured for the invention," instead of "measures have been taken to secure a patent."

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NEW YORK, JANUARY 22, 1848

The Patent Office.

The business of the Patent Office is six months behind the age in examinations and five years behind the wants of our people.—After an application is made for a patent, no examination is had upon said application for six months after. The reason is, that there is not a sufficient number of Examiners to investigate the claims of applicants. The delay of examination and decision is most harassing to the minds of inventors. Six months are they kept in suspense relative to a favorable or unfavorable report, and all because there are not a sufficient number of Examiners appointed by Government. while there has been $200,000 in the Treasury of the Patent Office, the revenue of inventions, the interest of which at 6 per cent would be $12,000, which should have been paid to four extra Examiners last year, in order that justice might have been done to those who have applied for patents.

We have received communication after communication on this subject. Some inventors have called upon us and expressed themselves most bitterly against the manner in which business was conducted at the Patent Office. It is a rule that we have laid down in the management of our business, founded upon the principles we have laid down as the rule of our lives, never to indulge in a spirit of railing against men or institutions, unless that broad and open facts require broad and open strictures. We therefore will not say any more at present on this subject, than that in justice to inventors Congress should immediately adopt measures to examine the six months accumulated applications for patents at present on file in the Patent Office, and never for the future allow the business of examination to be more than one month behind the period of application; also never to apply for the future any of the revenue derived from mechanical invention to any other purpose than to spread a knowledge of the Mechanic Arts.

Architectural Taste and Design.

The first great works of architecture still exist on the plains of Egypt. These rather astonish by their grandeur than please by their elegance. The earliest ideas of architecture were elevated by devotion, hence arose the magnificent temple as a sublime tribute to display the glory of the Deity. It is not possible now to discover the causes which originated an original and early elegant style of architecture in the Isles of Greece. Grecian civilization is still a wonder. It was there where the art of building early advanced to a degree of perfection which has never since been surpassed by all the united architectural genius of the whole civilized world. The Grecians invented particular styles of architecture which admit of no improvement by alteration. Trifling changes in the capital of a column may have pleased vain artists, but true taste has always been offended. Simple magnificence is the grand secret of the beautiful and sublime in ancient architecture. The Greeks drank in beauty from the most profect living models in sculpture, and their architects designed and constructed, having a taste for the perfection of form, just proportion and harmony of parts. Profusion of ornament was no part of Grecian taste. What they copied was the most beautiful of nature's works, justly considering that the most perfect works of he Deity were higher than the heavens superior to the most elaborate trickery of showy art. We think that it would be well if some of our architects studied nature more and tawdry art less, for it is very obvious to the most illiterate man who has anything like a fine taste at all, that the prevailing taste especially in *Sacred Architecture*, exhibits neither originality in design, good taste in copying, nor chastity in ornamenting. The Gothic style is all the rage, and it is a noble style where it is to be found genuine and unmixed. This style is associated with ideas of sublimity and gloomy grandeur. The long drawn aisle, the pointed arch and the fretted roof, inspire us with feelings of awe if from association we call up again to inhabit the Abbey, the monks of the middle ages and the heroes of the days of chivalry. Without them, we confess, all ideas of beauty or sublimity, are lost in the complicated parts of abrupt angles and jutting points. Instead of copying the purest, or designing in the chastest Gothic style, our architects neither adhere to the one nor the other—they wander both from the laws of nature and propriety. The *florid style*, which seeks to cover up a defective taste, is exhibited in gaudy colors on the one hand to contrast with gloomy oak graining on the other. The glaring flashy colors of huge windows, seem to constitute the only idea of grace and beauty in the minds of some architects, even although the stained glass should exhibit only a barbarous contrasting of colors, instead of natural combinations and neat and correct arrangement.

The grandest temple in which we could worship Divinity, would be under the trees of the eternal forest, with the wild winds echoing responsive to the pastor's voice. There indeed the gloom of the forest shade, "the place, the scene," would conspire to lead the mind "from Nature up to Nature's God."—Such scenes undoubtedly gave rise to the Gothic style, but it is certainly a violation of the law of nature to rear structures when from a passing cloud, artificial light is required to illumine the long drawn aisle. The glaring yellow light too, so prominent, in some of our new churches, by being so grievously painful upon the optic nerves, we think should at once teach our architects, that although they dazzle by glittering show, it is at the expense of violating nature's law.

Historical decoration has a good effect in architectural design, but the representations of historic events must all be truthful, or the reverse of pleasure is experienced in beholding them Designs intended to chime sweetly with the laws of association must convey by the organs of vision to the mind, the stirring memory of bygone years. When we look upon the large stained windows of Trinity church, we are apt to exclaim, "Were there only six apostles?" The most elevated architectural design is that which strikes and pleases the most uncultivated minds. "Like the fabric of the universe it derives much of its grandeur from its simplicity." It is our opinion, that our most wealthy and recently erected churches, exhibit more gaud and gilding than grace or beauty. The only redeeming feature in connection with them (and for which we forgive many faults,) is comfort and convenience, without which the most perfect architectural design is not perfect

Modern Science.

How astonishing are the results of modern mechanical science. The commerce across the deserts of Arabia, once so great and extensive, has been destroyed by the Mariner's Compass and Tyre and Sidon have fallen from their ancient commercial greatness. The steam engine nas struck down the trade of the Caravan and the steamboat rides bravely on the waters of the Nile proclaiming to the inhabitants of the Delta the powers and genius of a people belonging to a country which was unknown to Hero. Our leviathans of the new world, proclaim to the inhabitants of the old, the power and civilization of the fabled Atalantus, and Asia, the cradle of the human race, is now receiving lessons of freedom and knowledge from the land of the setting sun. American citizens are highly honored in the city of Constantinople and are selected by the Sultan as teachers of science. There is a bright path laid out for our country, that of carrying freedom, science and knowledge to the ends of the earth. May we not neglect to tread in this path of true glory. The eyes of the whole world are now fixed intensely on America, and according as we act, right or wrong, so do we exert an influence upon other nations for good or evil. Nations should be as exemplary in their characters, as individuals, and we hold it to be the greatest glory of any nation to be great in knowledge and virtue.

For the Scientific American.

Mechanical College and Experimental Workshop.

While the numerous papers of our country are teeming with agricultural information and our General and State governments have singularly and laudably encouraged this most important science, it is to be regretted that so little attention has been paid to the encouragement of mechanical skill or improvement in the Mechanic Arts. This great State has its Geological Museum and Agricultural Department at Albany, all kept up at no little expense. This is right, but why has our mechanics been neglected? Why not have a Depository of the Mechanic Arts in our capital? Is the genius which linked the Erie with the Atlantic, only of so much worth as to deserve neglect? Is the genius which has made a highway for the iron horse to gallop on the lightning's wing from end to end of our country, been of so little notice as not to deserve a single word of State encouragement or a single act expressive of gratitude for all the benefits and honors conferred by American Mechanical genius? The above queries are answered in the affirmative by a stolid neglect of giving the least encouragement to, or making any appropriation for American mechanical genius. It is a shame for us as citizens of the State of New York, that although we have been distinguished for mechanical skill and ingenuity, we have no National Depository which proclaims a national interest taken in mechanical inventions. The mechanic and farmer are twin brothers, their trades go hand in hand—the one cannot do without the other. We would therefore desire to call attention to this subject and request an equal share of attention and encouragement for the one as well as the other.—Why not institute a Mechanical Workshop.—We believe that such an Institute would be of great advantage to our people and country.

Yours, &c. J. L.

We commend the above suggestions to the American Institute. Considering the large revenue derived by the Institute from exhibitions of machinery, we trust that the members and officers will at least remember that if they establish an Agricultural College and Experimental Farm, they ought also not forget that the Institute was established with the primary object in view, solely of encouraging American manufactures.—Ed.

State Prisons and Employments.

There are now three State Prisons in this State—one at Sing Sing, one at Auburn, and the other in Clinton county. In these Prisons a great number of mechanical trades are carried on by companies contracting with the overseers for the labor of the prisoners at certain valuations for their labor per day. A great deal of good mechanical work is finished in these prisons and sold in our cities for less than our mechanics can make them. This has long been a cause of complaint to our mechanics. The Clinton County prison was instituted to prevent the learning of mechanical trades in prisons and for the purpose principally of mining a valuable seam of iron ore and making the metal into blooms. Under the superintendence of Ransom Cook, Esq. a good practical mechanic and scientific man, this prison will be an honor to his energy, skill and urbanity. We have frequently heard men, well acquainted with the whole scheme, state it as their deliberate opinion, that Mr. Cook of all other men in this State could make that institution successful.

Pennsylvania Coal.

The value of the coal mined in Pennsylvania is not much less than that of her iron. It is the only district in the world where Iron Ore and Anthracite Coal are found together, and in an abundance which is literally inexhaustible. In the western part of the state. Bituminous Coal abounds to an unlimited extent. It is often sold as low as $1,50 per ton, at Pittsburg, near which place it is found in great quantities very near the surface of the ground.

From all these facts it is manifest that Pensylvania is far more richly endowed with natural treasures than any other section of the Union. Her Iron and Coal deposits are many times greater than those of Great Britain and France combined. The lapse of centuries will scarcely be able to make any perceptible impression upon them. It used to be a favorite and a true saying of Professor Silliman, that the "sun and the coal mines of Pennsylvania, would burn out together."

Whole Meal and Fine Flour.

We believe that it is quite possible for great men to make great mistakes, and we have been led to form this opinion respecting Professor Johnston's investigations on Bread making, which have been published somewhat extensively in this country, copied from Blackwood's Magazine.

The Professor says that in 1000 pounds of whole grain there are of fat 28 lbs. and in a thousand of fine flour 20, while in 1000 lbs. of bran there are no less than 60 lbs. of fat Of muscular matter he says, that in 1000 lbs. of whole grain, there are 156 lbs. while there are only 130 lbs. in 1000 lbs. of fine flour. Of bone material and saline matter he says that "a thousand pounds of bran, whole meal and fine flour contain, respectively :—

Bran : : :	700 lbs.
Whole meal : :	170 lbs.
Fine flour : :	60 lbs

"So that in regard to this important part of compound necessary to all living animals but especially the young who are growing and to the mother who is giving milk, the whole meal is three times more nourishing than the fine flour.

Upon the same principle of reasoning as the learned Professor's we know a farmer. who fed a young horse with oat straw to give it a *good foundation*, as he said in our presence. "True, Mr. Hichcock," remarked a shrewd friend of ours, "you are in a fair way of getting your animal into a *permanent* condition." That horse was dead in three weeks after we heard the above remark, and if bran is superior to fine flour, we think that it must be excellent as an article of diet, but it is a pity the Professor overlooked the claims of straw

Growth of the West.

Ten years ago at the mouth of a little river in Wisconsin, on the border of Lake Michigan, a solitary cabin stood amid the widespread forests, the residence of an individual who united in his person the character of farmer and hunter. For ten miles on every side no trace of another civilized human being could be found—and the Indian traced the deer through the woods, unmolested by the white man, and unobstructed by fences and grain-fields. At the present day, the occupent of that cabin, who was also the owner of at least a square mile of land, is the Mayor of a city which has grown up in the short space of ten years on the limits of what was once his own property,—a city containing over 13,000 inhabitants' with a commerce which promises to make it one of the most flourishing Lake ports of the West, and the seat of wealth intelligence and industry. That city is Milwaukie.

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The second volume of the Scientific American, bound in a superb manner, containing 416 pages choice reading matter, a list of all the patents granted at the United States Patent Office during the year, and illustrated with over 300 beautiful descriptive engravings of new and improved machines, for sale at this office—Price $2,75. The volume may also be had in sheets, in suitable form for mailing—at $2.

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For the Scientific American.

Flower Painting.

The art of painting flowers is one of the most interesting and beautiful in the department of imitative art. A knowledge of botany in all its branches, a correct eye, a practised and light hand, a consummate knowledge of colors, delicate pencil, high finish, taste, and a tact for arrangement, are all among the requisites for a painter of flowers. Van Huysum, Varelst, and two or three others, elevated this art above that of the mere botanical copyist; and one of its practioners obtained the flattering name of the Michael Angelo du Floir.

Among the ancients, according to Pliny, flowers were used as symbolical of spring; and upon many medals which represent this happy season of the year, by four children or genii, that of spring always carries a basket filled with flowers. Hope is also figured by the ancient artists and poets as holding a flower in his hand. Venus is sometimes so represented, or crowned with a garland of flowers. Persons conveying good news crowned themselves with flowers, to indicate the happy tidings of which they were the bearers. They cast flowers in the path of those whom they would honor, as is still the custom at coronations and important marriages. Lovers ornamented with festoons and garlands the houses of their mistresses. They were also carried in the Floralia, as is still one of our customs on May-day. They also crowned with flowers the victims which were led to the sacrifices, and virgins when going to be married. They also decorated the tombs of their beloved and and honored kindred with flowers, which they removed on the anniversary of their departure from this world, as is still the custom in Roman Catholic countries. The selection of the flowers, and the manner of arranging them into garlands, constituted an art among the ancients, which had its rules and regulations, and thus the females particularly excelled in communicating their sentiments by a garland, as the Oriental nations of the present day do in communicating a love letter in a boquet, as Lord Byron emphatically expresses it in his address to a young Greek:—

"By all those tokens, *flowers* that tell
What *words* can never speak so well,
By love's alternate joy and woe."

Many epigrams in the Anthology, make us acquainted with the names of the flowers which they mostly used in forming these crowns and garlands, and the signification of them. It was not only the colors but also the odor of each flower that governed symbolical language. In the Book of Dreams of Artemidorus, are many explanations, the symbolical meaning of a list of flowers which go to the formation of a chaplet, or garland. Flowers, also, among the ancients, contributed to the festivities and joyousness of the banquet. The revellers wore chaplets or crowns of flowers upon their heads and around their necks, the perfumes of which were not only agreeable, but considered as antidotes against intoxication. They also crowned their goblets with wreaths of aromatic flowers. Many physicians of antiquity, particularly Meresitheus and Collimachus, wrote treatises on the medical virtues of chaplets of flowers worn about the head. Flowers have been used in all times as ornaments and perfumes in houses, preserved in vases or goblets, with water. Upon many ancient medals, particularly the Byzantine flowers are thus displayed.

Among the early Christians, flowers were regarded symbolically, as representing gifts of the Holy Spirit. On this account it was at the feast of Pentecost, or Whitsuntide, the priests cast flowers from the upper ambulatories of their churches upon the congregation of the faithful assembled in the nave below: a custom which is still continued in Catholic countries, as well as the decoration of the churches with flowers, according to the season, both at Christmas and Whitsuntide; which latter custom is observed, also, in many English Protestant churches. Flowers are also held by Catholics as a symbolical of the delight of Paradise, and were accordingly figured upon the glasses of the early Christians.—To represent these beautiful and delightful works of Nature in painting, requires that delicacy, finish, lightness and taste, which is so peculiarly adapted to females; and many of that sex have, consequently, succeeded in this elegant art.

Stirling's Air Engine.

(*Concluded from our last.*)

The principle of the Air Engine and the means by which it has been rendered effective consist in the means adopted for keeping the piston rods air tight and enabling the pressure of the air to be raised to such an extent as to bring the engine into a small compass. Also the use of a refrigerating apparatus for extracting the waste heat and bringing the air to a lower temperature than could otherwise be obtained The greatest difficulty which the inventor met with, was in the proper application of heat to the outside of the air vessels. The hot air is applied by passing through a tube in the inside of a furnace and it is found that the flues, properly constructed, distribute the heat very equally over the surface and that the vessels do not exhibit a tendency to oxidization, no rare hurt by unequal expansion. Mr. Stirling's engine has a cylinder of 16 inches diameter and a four foot stroke, making 28 strokes per minute, and it worked for a whole day with a burden of 1,250,000 lbs. and drove 370 feet of shafting with an expenditure of only 1000 lbs of Scotch coal, including the quantity necessary to get up steam in the morning, equal to 600 lbs. of the best Newcastle coal. This engine only requires a cubic inch of oil to keep the piston and rod in order for two days. The air is worked sometimes at the maximum pressure of 16 atmospheres, but on this account it has been found to be no more, if not less, dangerous than steam engines. It drives all the machinery of the Dundee Foundry and after it has worked more than two years, doing more work than a steam engine of the same calculated power that had been there before, the piston was scarcely perceived to be worn but had a most brilliant polish while the air passages were not perceptibly corroded. The consumption of fuel is 2½ lbs per horse power per hour.—What is very remarkable about this engine is, the heat of the cylinder. It was stated by Mr. Leslie before the Association, that he had paid much attention to the engine, and he had found that the cylinder never was so hot as that of a steam engine.

We have thus briefly brought into notice on this side of the water, an air engine which has been very successful and more economical in regard to the use of fuel and oil, than the common steam engine. There are as yet no elementary rules for the building, nor theoretical tables to guide in the constructing of these engines. The art is but in its infancy. and it will require more experiments to test the real superioriority of the air over the steam engine. The subject has received considerable attention, at least from one ingenious mind in our own country, who was not aware of any engine of the kind being in existence, and who maintained against much opposition that air was superior to steam as a motive power. The person we allude to, was Evan J. Purser, Esq., member of the Jefferson Medical Institute, Philadelphia, and respecting whose profession we made a mistake in one of our previous numbers. We hope that what has been said will lead to much experiment among the ingenious men of our country.—Much improvement has yet to be made and there can be no doubt but for ocean steamers the air engines would be an important advantage. No boilers are needed and consequently less weight of machinery, thereby affording a greater amount of room for coals in long voyages, or for cargo in short passages. We most urgently desire to impress upon the minds of our mechanics and ingenious citizens, the importance and value of such an engine for propelling carriages on our plank roads and other good turnpikes.

Illustrated Window Labels.

In the window of a victualling shop in Glasgow, there is a picture of a chimney sweep tumbling off a house on the top of a Baker's board and the buns chasing one another across the street and a host of chimney sweeps chasing the buns. In another window in the same city—a silk Meacer's—there is a lot of black silks, labelled Family Mournings, and a death's head and cross bones ornamenting the top of the card.

For the Scientific American.

An Inventor's Institute.

Mr. Editor:—

Sir:—The remarks which appeared in the last number of your paper, concerning a plan recently concocted in the "upper regions" of one of your contemporaries, and purporting to be for the formation of a company to be called the "American Inventors' Institute," were, in my estimation, not only appropriate and deserving, but such as will help to deter all designing persons from hereafter attempting to impose upon the good sense of a discerning public. That such an institution, properly organized, and honorably conducted, would be beneficial to that class of inventors, who have more of intellect than they have of gold or silver there can be no question or doubt.—And it may, also, be reasonably supposed that capital employed in this way would prove a very profitable investment to the stockholders. But any thing of the kind must have something substantial in its nature, in order to produce a favorable result—it must partake, in some small measure, of the essence of fairness before it can claim the support and patronage of a discriminating, though liberal, public. And when an effort is made by any irresponsible person or persons to throw a mass of valueless stuff (valueless from its nature and character, as well as design,) on the shoulders of a community, they may rest assured of its being thoroughly weighed in all its bearings and consequences before that community will suffer them to pin it to their backs.

Mechanics are a most useful class of society, and their arts should ever be fostered, their interests advanced, and their rights sustained, in every honest and honorable way. For whatever increases their interest, redounds to the interest and advantage of all other branches of industry; disseminates useful knowledge, and adds to the wealth and power of all civilized nations. Any undertaking, therefore, to cajole them out of their hard earnings would be as mean and unmanly, as it would be unjust. No long drawn argument is necessary to prove the nonentity of these self-constituted and self-styled Associations, with all their plausible professions of philanthropy. For any company of this kind, formed without a legislative enactment, or anything to recommend it but the *ipse dixit* of its projector, discovers, at once, to the commonest observers the slender foundation on which it is based. It commences without a beginning, and must end without a result. In its operations it is 0 from 0 and nothing remains.

Your likening this affair to a Mississippi bubble really makes it savor very much of something that is wrong in New York, and this is true. We have bubbles in our own State at no great distance from home. That magnificent one for instance, which covers the spot a few miles up the Hudson where Captain Kidd once sunk a *vessel loaded with golden treasure.*

The beauty of this grand enterprise is only equalled by the sublimity of its conception.—In short, all such chimerical projects are like a Rhode Island Eelectro-Magnetic Association or visionary Flying Balloon scheme: the one requiring the veriest subtlety for its propelling power, and the other a full inflation of gas for its support. J. D. C.

Bible Pictures for the Young.

I wish particularly to record the effect of old associations, with the earlier Bible narratives. I feel quite sure that the use of the sacred dialogues as a school-book, and the pictures of Scripture scenes which interested my boyhood, still cleave to me, and impart a peculiar tinge and charm to the same representations when brought to my notice. Perhaps when I am mouldering in my coffin, the eye of my grandson may light upon this page, and it is possible that his recollections may accord without my present anticipations of the effect that his delight in the Pictorial Bible may have in endearing still more to him the holy word of God. May it tell with saving effect on his conscience in whatever way it may effect his imagination; and let him so profit by its sacred lessons of faith and piety, that after a life of Christian usefulness on earth, we may meet in Heaven, and rejoice forever in the presence of our common Father.—*Dr. Chalmers.*

Morse's Telegraph.

Morse's Telegraph is the subject of a long article in Silliman's Journal for this month, by Chas. T. Chester—who states that it is on the exclusive use of the electro-magnet, and a certain combination of circuits, requiring the aid of the receiving magnet, that the value of Morse's patent depends. He thinks that four times the present number of wires and operatives would be required by the business on the chief lines, if the machinery were more perfect and reliable. The transmission of words is now so rapid that no penman can keep pace with it. On one occasion 25,000 letters have been transmitted in one and a half hours, with two instruments and wires.

"Two wires were at work, one through 300 miles, the other through 500. Four hundred and fifty private messages were sent or received, composing every variety of business and information. Twenty-five chargeable words were the average length of these 450 messages, so that one office must have realized, in cash for that one days work, near $1,000, by the tariff laid down, of 25 cents for 10 words.

"House's patent machine cost ten times as much money as Morse's, and his object is to make at one end of a wire the revolution of a disc, upon whose edge the Roman letters are raised, synchronous (simultaneous, or at the same time) with the operations of a lettered finger-board at the other end of the wire; so that at the touching of A on the finger board, the wheel presents and impresses A on a slip of paper."

The telegraph lines now completed in this country embrace 2,989 miles.

TO CORRESPONDENTS.

"J. L. of N. Y."—The old way of measuring tonnage was, to multiply the length of the keel by the breadth of the beam and that product by half the breadth of the beam and dividing the last by 94 gave the amount of the tonnage.

"R M. M. of Conn."—Your model is forwarded to Washington. So is "C. C.'s," of N. Y.

"J. M. of Ohio."—The Patent Office will be guided in their decision by *new and useful.* We have heard the same complaints as yours from a number, but we cannot and will not give expression to the excited feelings of any person. Real tangible facts are alone the basis of all that we assert or will assert.

"S. M. M. of Mass"—Gutta Percha is the best covering for rollers that we have ever seen. We can furnish bands and soles of boots or shoes, and thin sheets of it.

"L. J. R. of N. Y."—The new material for paper appeared long ago in our columns, also the Curious Clock.

"J. B. of Va."—It is not possible for us to say which wheel is the best. Twenty-five patents have been granted for Reaction Water Wheels. You will find much valuable information on this subject in the back numbers of the Scientific American. Munger's Turbine is no better, if as good, as some others.

"E. A. D. of N. Y."—We cannot see how a screw propellor would act as a Reaction wheel at all. The effect of the Reaction wheel is the result of discharge and if you construct a screw on the same principle, it is essentially a *Reaction wheel.* There are a number of forms for the buckets.

"W and P. of N. Y."—Your Washing Machine in our next.

"U. T. of Maine."—Address Alex. Ross, manufacturer of Fitzgerald's Portable Mills, New York. It is a good machine.

"L. V. B, of Boston."—Your alarm is simple and beautiful and there is much truth in what you say regarding price.

"J. V. R. of N. Y."—We cannot agree with you that *inertia* is more than a mere passiveness of matter, we know that some blundering authors are still rooted to the old theory, an inclination of matter to rest.

"J. W. of Mass."—We will give your invention due consideration.

"J. R. N. of Mass."—We should be pleased to hear from you often. Such communications as you propose are always thankfully received by us.

"H. C. of Pa." We believe the roofing composition referred to will not be so good

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for your purpose as shingles or slate. We would not honestly recommend you to use it, we have come to this conclusion after some investigation regarding its merits and demerits.

"R. C. of Mass."—We received your last, and were sorry to hear of your illness. We had a letter just going to send away when yours came to hand. We did not speak flatteringly of your rotary engine but gave no reason. We hope you are now better.

"F. G. of Phila."—Will you send us the number of the paper you wish, and it shall be forwarded promptly.

"W. E. L. of N. Y."—We have not had an answer about the loom yet.

"J. K. of Mass."—Will you be so good as explain what you mean by *perpetual motion* We confess that there are many vague ideas about it and we cannot see into yours.

"D. T. of N. Y."—Your communication on reaction water wheels will receive due attention.

"W. G. of Mass."—Mr. Secor of the Allaire Foundry, New York and Messrs Allen & Co. of the Novelty Work, might give your invention attention. If it is really an improvement it will meet with attention.

Our Philadelphia Subscriber will find all the information required. prices, &c.. by addressing a letter to Mr. Horace H. Day of this City. A patent has been secured years ago. There are three patents for attaining the same end.

An American sailor has been sentenced to two months imprisonment and a fine of twenty-five dollars at Singapore, East Indies, for insulting the American Consul.

The Finlanders have a vessel which sails on the Gulf of Bothnia in winter. She sails upon the ice, sometimes at a very rapid rate.

Chamber's Miscellany.

No. 11 of this valuable publication has just been received by Berford and Co., No. 2 Astor House.—Each number is beautifully illustrated and the work is worth three times its cost. Price 25 cents per number.

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It must be apparent to every one that it is no easy matter to look over seven or eight thousand names to find a certain one to erase, and we wish that our patrons would bear this in mind and always in future to mention at what place they have formerly received their paper, as well as where they in future desire it sent.

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Rights of territory, patterns of wood or iron for casting, and horse powers, for sale by the subscriber, or by Henry Olds, of Syracuse, N. Y., my authorised Agent.

DANIEL WOODBURY.

Perkinsville, Vermont, Jan. 5, 1848. j22 6t*

Fire and Burglar's Alarm.

THIS Invention by Messrs. Tomlinson & Hopkins, is worthy the attention of the public. One of the Alarms may be seen at this office, where application may be made for the purchase of rights, either State, County, Town, or single; or where orders can be left to have them adjusted to any building in the city. MUNN & CO. j15

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j8 4t* S. S. REMBERT, Memphis, Tenn.

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From 1 1-4 to 6 inches diameter, and any length, not exceeding 17 feet.

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THOMAS PROSSER, Patentee,
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do Bracket do do
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OILS—Sperm, hale and Lard, of the best quality.
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November 29, 1847. d18 6m

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Augusta, Maine, Oct. 1, 1847. J. G. JOHNSON.

Magnificent Portrait of General Taylor.

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Needle and Pin Making.

Needles go through a number of operations before they are complete. Some commence with steel wire hardened, others harden it afterward. The wire is first reeled into a coil, which is cut apart in two places with shears, and then drawn a second time, after which it is cut into lengths just sufficient for two needles in each piece: these pieces are then straightened by rolling a bundle of them together upon a hard surface, being afterwards sharpened upon a revolving grindstone. The pieces are now cut in two at the middle, the blunt ends flattened by a hammer, preparatory for the eye, which is afterward pierced by machinery. They are then tempered by plunging them into a bath of melted metal, and immediately after into cold water; then thrown into a wabbler—a barrel rapidly revolving upon an axis not placed through its centre—with emory and a putty made from the oxide of tin, by which they are burnished. They are then taken out, separated by a winnowing apparatus, and put up in papers for sale; the quantity not being counted but regulated by weight. The eye was formerly pierced by children, who became so expert that with one blow of a punch they would frequently pierce a hole, through which they would thread a hair from the head and hand it to their visitors.

There are but three manufactories in this country, and one of these imports them from England in a half finished state and then finishes them, the European labor being less expensive.

Homer Whittemore invented a machine as long ago as the Revolutionary war, for making Pins. The present operation consists in strengthening the wire, cutting into proper lengths, grinding the points, putting on the heads, and then coating with tin. There are two kinds of heads, one being solid and the other made of fine wire. The solid heads have heretofore required the pins to be annealed, which took away its stiffness, but now this is obviated by dipping the ends into prossiate of potass and sottening it by a blow pipe, which saves the main body of the pin. The silvering operation is performed by placing the pins in a metal dish with alternate layers of grained tin; a solution of acids is then thrown on and the whole boiled to make the tin adhere to the pins, which gives them a silvery looking coat.

There is what is called the American Elastic Pins for shawls, &c., invented by Mr. Rabbeth, of Conn. It is a patent pin, very beautiful and convenient. The inventor desired to sell his patent right and we gave notice of this in the Scientific American.

The Cycloid.

If we make a spot in the periphery of a wheel when travelling on a plane, the figure which that spot describes is a cycloid. Now there is no figure in which a body can be moved with so much velocity and such regularity of speed, not even the straight line. Mathematicians discovered this not many years ago: but nature's God taught it to the eagle before mathematics were invented; and when the eagle pounces on his prey he describes the figure of a cycloid.

A globe placed in water or in air, meets with resistance, and its velocity will be retarded,—if you alter the globe to the form of an egg, there will be less resistance. And then there is a form called the cycloid, of least resistance, which mathematicians studied many years to discover; and when they had discovered it, they found the form in a fish's head! Nature had "rigged out" the fish in just such a figure.

The feathers of birds and each particular part of them, are arranged at such an angle as to be most efficient in assisting flight.

In Saxony there are 75,000 persons who make their living, in one way or another, from the manufacture of musical instruments.

For the Scientific American.

Blue Color for Stamping Patterns on Cloth.

Take one ounce of Prussian blue, pound it to powder and dissolve it in a little gum water wherein is mixed a little oxalic acid and white sugar. By having a greater or less quantity of water mixed with the blue and thickened to stamping consistence with gum, there will be dark and light shades produced, as may be desired.

Powdered indigo mixed with gum water, for stamping, makes but a poor color, and is easily washed out. The above receipt is rather a fast color. If one ounce of powdered indigo be dissolved in 4 ounces of sulphuric acid, and the acid neutralized with the addition of one ounce of the acetate of lead and half an ounce of whiting, makes a fine blue for stamping, with the addition of being thickened with gum.

Speaking Machines.

The Abbe Mical, a celebrated French mechanician, constructed two colossal brazen heads, which are said to have uttered not only words, but entire phrases. He submitted these master pieces of his skill to the Academy of Sciences in July, 1783; but being disappointed of the reward which, on the recommendation of the Academy, he had expected from the government, he broke them to pieces A celebrated anatomist gives us the following account of their construction:—

The heads covered a hollow box, the different parts of which were connected together by hinges, and in the interior of which the inventor had disposed artificial glottises of different forms over stretched membranes. The air passing through these glottises was directed on these membranes; which gave sounds of different pitches; and from their combination there resulted an imperfect imitation of the human voice. Sir David Brewster thinks that "before another century is completed, a talking and a singing machine will be numbered among the conquests of science."

That may be, but a thinking one never.—Yet we have no doubt but the talking machine when invented, if ever, would sell for more money than the thinking and talking one combined.

New Mode of Making Coffee.

Take one pint of Orleans mlasses boil it in an iron pot, until it becomes quite thick and the sweet taste burnt, then take it off the fire and pour in hot water gradually and stir it till it becomes a little thinner than the molasses was at first, then to one spoonful of this burnt molasses add two spoonfuls of ground coffee, boil as usual and clarify with the white of an egg.—*Ohio Cultivator.*

Another Mode.

Take sweet potatoes, and cut them about the size of ordinary dice, then toast them over a fire like coffee beans, grind it and scald it like ground coffee. This potatoe coffee is as strong and dark in appearance as any other, and only differs in taste from "Havanna" by reason of a slight resemblance to cocoa. It takes very little sugar, and is a substantial, cheap, and no doubt healthy drink.—*Southern Planter.*

We have tried both these modes and like Paul chose to abide by the old ship. The first is a very poor method and will in no manner pay for the trouble, but the latter is both original, homespun and has merit.

Cure for Rattlesnake Bites.

A correspondent of the Philadelphia Inquirer states that tobacco applied to the wound made by a rattlesnake's bite, is an antidote to the deadly effects of its poison.

Dr. Lee, of Hartford, Conn., states that he has treated a number of cases successfully at the South by applications inwardly of alcoholic liquors.

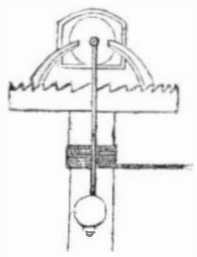
J. W. Rose, M. D., of Philadelphia, in a communication to the N. Y. Tribune, says that if the following mixture is applied to the wound, the cure is soon complete:—

Indigo 4 drachms; gum camphor 8 drachms; alcohol 8 ounces; mixed and kept in close bottles.

The newest invention out is a pair of bellows for taking snuff. It is loaded once a week and all that is needed is just to elevate the spout to the olfactory and blow away and sneeze for a fortnight.

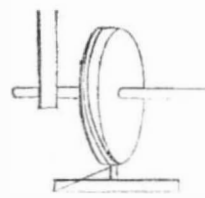
MECHANICAL MOVEMENTS.

Vibrating Lever and Chain.



The above cut exhibits a mechanical movement from which it will easily be perceived that by the motion of the vibrating lever arrangements for drawing a rope are exhibited in a very plain and simple manner. Connected with catches which gather a tooth of the ratchet wheel at every vibration, the shaft is revolved on which the rope is coiled. This arrangement belongs to that fine mechanical art, watchmaking, and the same principle is exhibited in the working of every clock. The swinging of the pendulum in an arc lifts a clamp each vibration and round and round goes the shaft on which is fixed the ratchet wheel.

Traverse and Oblique Motion.



This is a cut of an arrangement showing how a small traverse may be produced by a revolving wheel. There is an oblique groove in the periphery of the revolving wheel in which a cord plays that is attached to the lower bar and as the wheel revolves a small traverse is produced. The idea of operation is very plain and will be understood at once, as it is produced upon the very same principle of the parallel motion in a shaft that may be attached eccentrically to a small wheel moving in the inside of a larger one.

Beet Root Sugar.

Beet root sugar is fast superseding the Cane sugar in various parts of Germany. Good strong loaves manufactured from cane sugar by the refineries at Stettin and Berlin, cost 18 dols. per cwt. a quality in every respect equivalent, in color as well as strength, and being of a pure taste, made at Madgeburg from beet-roots, sells at 17 dols. or from five to six per cent, less; and with such a price, which leaves a clear profit of 20 per cent.

The progress made in this branch of industry is astounding. The produce of two sugar houses in that neighborhood, is of such a superior quality that in none of the refineries within the boundaries of the customs union who use cane sugar, an article is made which could successfully compete with it. A number of new establishments are being erected every year in that district, (within a circuit of from six to eight German miles) on the left banks of the Elbe, and in this season the quantity of beet-root sugar produced there will exceed 200,000 cwt.

Sponges.

Sponges afford another curious instance of zoophitic life. There are forty-nine species of this zoophite, each of which is characterized in the Linnaean system as a fixed animal flexible torpid, of various forms, composed either of reticulate fibres, or masses of small spines, interwoven together, and clothed with a gelatinous flesh, full of small mouths on its surface, by which it absorbs and rejects water. The existence of the animal inhabitant within its cell has been satisfactorily ascertained by the observations and experiments of Ellis on the spongia tormentosa. He remarked its contraction when exposed to pain, or injury, as well as the expiration and inspiration of water through its tubes. He thus establishes the position that sponge is an animal, and that the ends or openings of the branched tubes are the mouths by which it receives its nourishment and discharges its excrementitious matter. This position chemistry has since abundantly supported, by proving the ammoniacal property of the cellular substance of sponge.

The sponges from the Levant are the most valuable, being much finer than those got in the Gulf of Mexico.

Preserving Pork.

One of the correspondents of the Genessee Farmer says that it is wrong to scald old brine for the purpose of salting new meat, and that for eight successive years he assisted in putting down pork and pouring upon it the same brine without being once scalded, and the older the brine, the sweeter and better was the pork. The brine was always sweet, and had plenty of brine at the bottom. The pork was laid down in the usual manner with salt, and the old brine poured back upon it. The advantages are saving of labor, and trouble.

Chloroform Yet.

There has been a novel application of chloroform at Cambridge. A horse in a gig began to kick furiously, and at length threw himself down in a rage. A chemist poured some chloroform on a handkerchief, and held it to the horse's mouth and nostrils; it became insensible for a time; the gig was removed and the horse, on recovering, quietly got up and walked into his stable.

Petrified Body.

A short time ago there was found in a coal pit near Edinburgh, Scotland at a depth of twenty to thirty fathoms, a petrified human body, which, unfortunately the miners broke, but three pieces have been preserved—viz., portions of the arms, and a foot and a leg half way up to the knee, the toes broken off,

Paper Folder.

A working engineer at Preston, England, has invented an apparatus for folding newspapers as they are received from the printing machine.

The British Museum has purchased the reversion, after the death of the present proprietor, M. Michel of Hamburg, of a rich collection of Hebrew books, amounting to 5000 printed volumes and 800 manuscripts.

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